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G5C CA361 CHA

(56) Documents Cited
GB 2277189 A GB 2272791 A EP 0546844 A
US 5444456 A US 4763230 A US 4689604 A

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(54) **Novelty cycle safety lights**

(57) A light emitting device designed to be mounted in/on a cycle wheel. The device consists of a number of lights mounted in a row with an electronic circuit that will turn the lights on and off in a predetermined or random sequence.

When the device is mounted on/in the moving part of a wheel and the wheel is revolved, when viewed due to the persistance of vision of the human eye it visually produces patterns or words (figure 2). A sensor may be included so that any patterns or words may be sychronised to start a fixed or predetermined point, an optoelectronic sensor may also be included so as to inhibit the operation of the lights in high ambient light conditions thus preserving battery life.

The patterns may be preset or programmed to the users personal design.

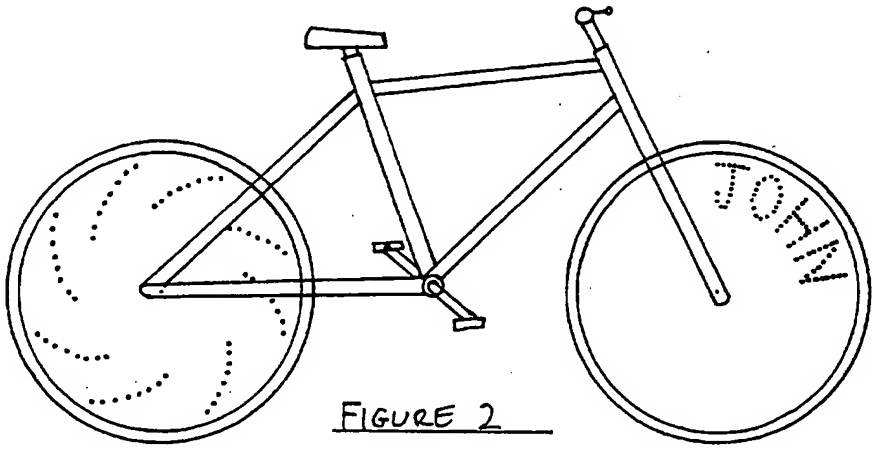

FIGURE 2

GB 2 311 401 A

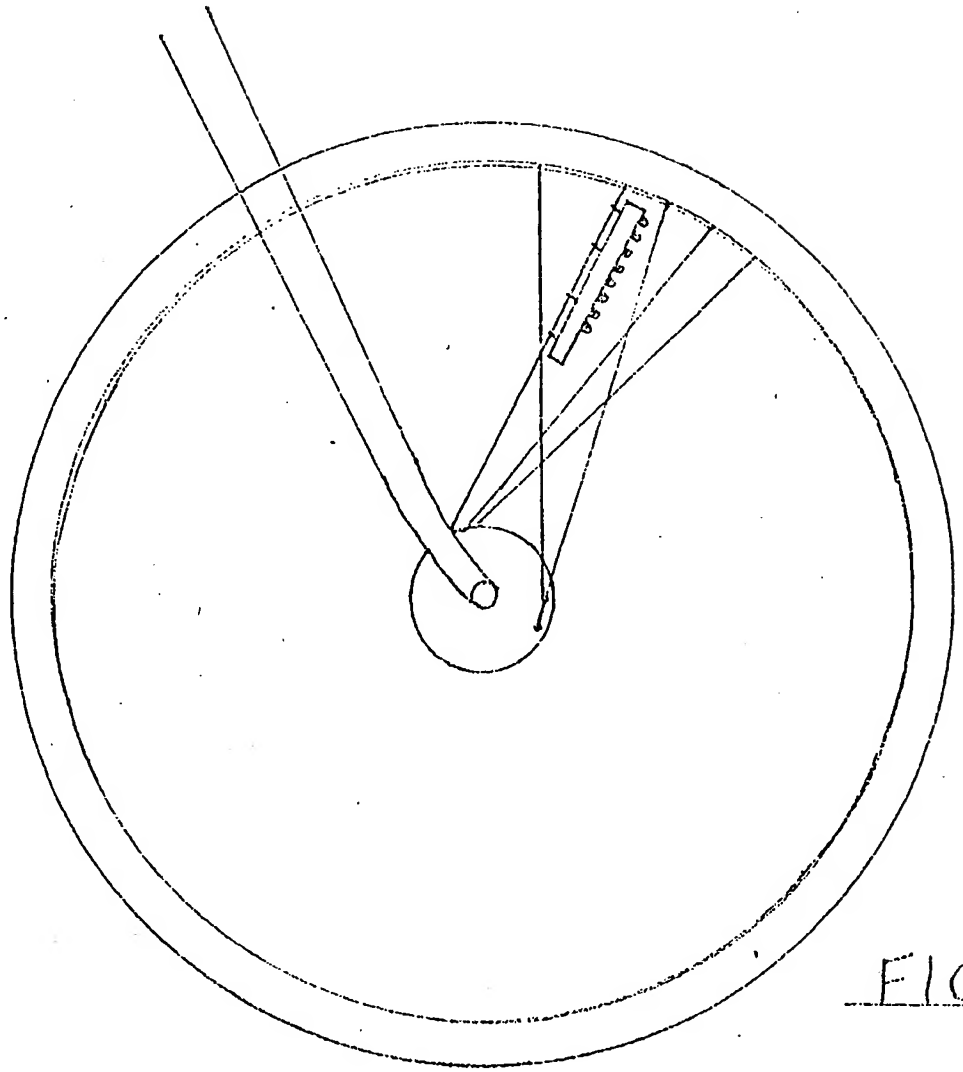

FIGURE 1

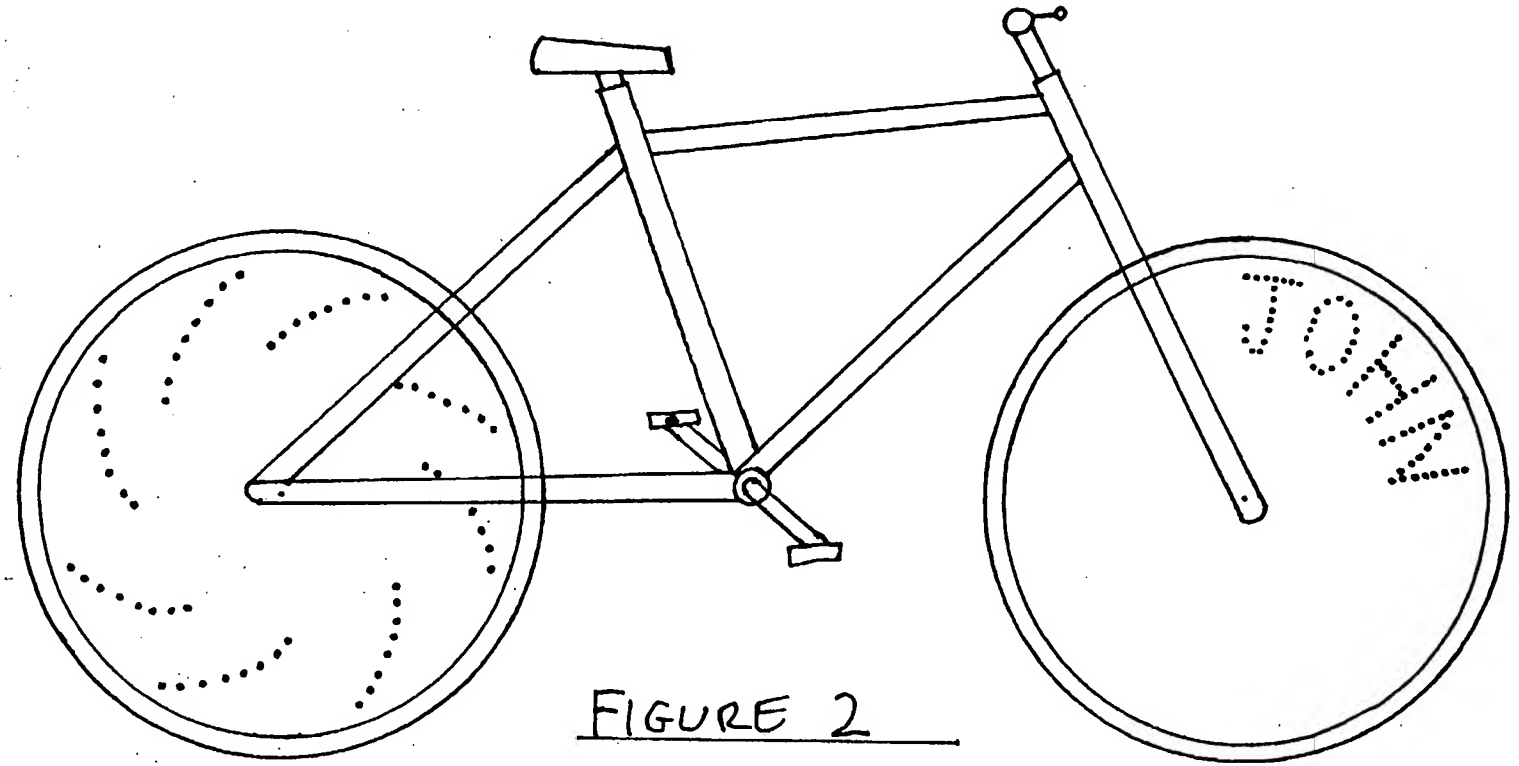

FIGURE 2

PATENT APPLICATION

DESCRIPTION

NOVELTY CYCLE SAFETY LIGHTS

This invention relates to novelty lights for cycle wheels.

Cycles have traditionally been fitted as a legal requirement with conventional lights front and rear so that the cyclist may be seen at night, a reflector is normally also fitted to the rear, in more recent years cyclists have become more safety conscious and have been adding extra features to their cycles (and clothing) to enhance road safety like reflectors fitted in the spokes of the cycle and various flashing lights fitted to the front, rear or to the riders clothing.

One of the problems with road safety products is encouraging children who tend to be the most vulnerable users to fit them and use them.
This invention is intended to encourage children to fit this safety device by way of its novelty features that will supply fun and entertainment.

The invention consists of a row of light emitting devices that are mounted in/on the rotating part of the cycle wheel they are driven by an electronic circuit that turns the lights on and off in pre-set or random sequences, the result of this due to the persistence of vision of the human eye is to create patterns or even words that appear to 'written' on or against the wheel thus making the cycle visible from a distance and also providing fun and entertainment at the same time.

Example:-
The light emitting devices and associated circuitry is mounted into a suitable housing thus allowing it to be mounted in/on a cycle wheel as in FIGURE 1. When the device is activated and cycle wheel is rotated patterns or words become visible to any person viewing the wheel (figure 2).

CLAIMS

1, A device consisting of a number of light emitting devices and an electronic circuit to turn the lights on and off in a pre-determined or random order.

2, A device as in claim 1 specifically designed to be mounted on the rotating part of a cycle wheel.

3, A device as in claim 1 or claim 2 that has a sensor to detect the position of the rotation of the wheel on which it is mounted.

4, A device as in claim 1 or claim 2 or claim 3 that is fitted with an optoelectronic sensor so as to disable its use in high light levels.

5, A device as in claim 1 or claim 2 that is powered by batteries.

6, A device as in claim 1 or claim 2 that is powered by a generator thus powered by the movement of the wheel or cycle.

7, A device as described in any preceding claim that may be programmed so as to display names patterns or advertisements.

8, A device as described in any preceding claims where the light pattern output is reversed alternately in order for any text to be readable when viewed when the wheel is rotating clockwise or anticlockwise.

9, A device as described in any previous claims that has the in built facility to turn off or go into low current (sleep) mode when no activity of movement is sensed.

The Patent Office

3

Application No:	GB 9605653.6	**Examiner:**	Mr.G.M Pitchman
Claims searched:	1 to 9	**Date of search:**	18 June 1997

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): G5C (CHA)

Int Cl (Ed.6): G09G 3/00

Other: ONLINE: EDOC WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 2277189 A	(NAKAMATSU)-see abstract (on the front page), figures 5 and 6 and page 4 final paragraph and page 5 first paragraph	1, 3, 7
X	GB 2272791 A	(MARKS)-see figures 3 and 4 and the reference to those figures near the bottom of page 1	1, 2
X	EP 0546844 A2	(AVIX)-see abstract	1, 3, 7
X	US 5444456	(MATSUSHITA)-see column 3 line 59 to column 6 line 31	1,3, 5, 7
X	US 4763230	(CUMMINGS)-see abstract	1, 2
X	US 4689604	(SV DEVELOPMENT)-see abstract	1, 3

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.